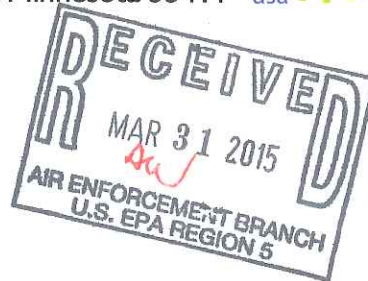


March 25, 2015



VIA U.S. MAIL

U.S. EPA, Region 5
Attn: Compliance Tracker, AE-171
Air Enforcement and Compliance Assurance
Branch
U.S. Environmental Protection Agency
77 W. Jackson Boulevard
Chicago, IL 60604

VIA EMAIL

Patrick Miller
miller.patrick@epa.gov

Nicole Cantello
cantello.nicole@epa.gov

Re: In the Matter of: Great Western Dock and Terminal 1031 Childs Road, St. Paul, MN 55106

Dear Mr. Miller and Ms. Cantello:

Great Western Dock and Terminal (Great Western) submits this response to U.S. EPA, Region 5's "**Request to Provide Information Pursuant to the Clean Air Act,**" which was dated March 9, 2015.

A. EPA'S FIRST REQUEST: "1. WITHIN 10 DAYS OF RECEIPT OF THIS REQUEST, GREAT WESTERN SHALL SUBMIT A WRITTEN CERTIFICATION OF ITS INTENT TO COMPLY WITH THIS REQUEST"

Great Western respectfully requests an additional 30 days in which to respond to Request No. 1. Great Western has **three** reasons for its request for additional time.

First, Great Western understands that this request is similar to requests of terminals involved with Koch Carbon, LLC's (Koch) shipment of petroleum coke. It was the fall of 2014 that Koch last unloaded petroleum coke at Great Western's terminal located at 1031 Childs Road, St. Paul, MN (Terminal). Accordingly, **all** of Koch's petroleum coke unloaded at the Terminal has long since been reloaded on barges and shipped down river. And, due to the federally-mandated closure of the St. Anthony Falls Lock as of June 10, 2015 and Great Western's resulting operational need to reduce third-party truck traffic into the Terminal, Great Western and Koch have agreed that no more petroleum coke shipments will be made to the Terminal pursuant to their "2011 PRODUCT HANDLING SERVICE AGREEMENT." Thus, even assuming (without making any opinion thereof) that EPA has "good cause" for its multiple requests for federally-mandated air emissions monitoring at the terminals that continue to be involved with the shipping of Koch's petroleum coke, there is **no** reason for air emissions

monitoring at Great Western's Terminal due to concerns with a material which is no longer being handled at the Terminal.

Second, Great Western is unaware of any other "good cause" for federally-mandated air emissions monitoring at Great Western's Terminal. Great Western's annual air emissions reports identify neither actual nor near exceedences of air emissions standards. Likewise, the nearest monitor has shown no actual or near exceedences. And "good cause" for such federally-mandated air emissions monitoring is not only legally required but also critical to ensuring that the proper air monitoring plan is prepared and implemented.

Third and finally, Great Western is, in any event, unaware of how to properly site such an air emissions monitor at its Terminal. The requirements for ambient monitoring only apply to state and local AQ agencies, and to PSD sources which are required under 40 CFR 52.21. The Terminal is **not** subject to PSD regulations, as its PSD emissions are well under the PSD thresholds. In addition, the siting requirements in Appendix E require spacing from roads, minor sources, trees and other obstructions. Based on 40 CFR 58.11 below, it is not at all clear that Great Western could site a monitor near the Terminal and comply with these requirements:

§58.11 Network technical requirements.

(a)(1) State and local governments shall follow the applicable quality assurance criteria contained in Appendix A to this part when operating the SLAMS networks.

(2) Beginning January 1, 2009, State and local governments shall follow the quality assurance criteria contained in appendix A to this part that apply to SPM sites when operating any SPM site which uses a FRM, FEM, or ARM and meets the requirements of appendix E to this part, unless the Regional Administrator approves an alternative to the requirements of appendix A with respect to such SPM sites because meeting those requirements would be physically and/or financially impractical due to physical conditions at the monitoring site and the requirements are not essential to achieving the intended data objectives of the SPM site. Alternatives to the requirements of appendix A may be approved for an SPM site as part of the approval of the annual monitoring plan, or separately.

(3) The owner or operator of an existing or a proposed source shall follow the quality assurance criteria in appendix A to this part that apply to PSD monitoring when operating a PSD site. (emphasis added)

In other words, the applicable regulations and policies appear to preclude the siting of such an air emissions monitor at Great Western's Terminal.

With this said, Great Western certifies its full intent to cooperate with the spirit of this Request. Indeed, to that end, Great Western requests the earliest possible meeting with you and/or other representatives of U.S. EPA, Region 5, together with Great Western's outside air emissions consultant — namely, Mike Hansel of Barr Engineering.

B. EPA'S SECOND REQUEST: "2. WITHIN 10 DAYS OF RECEIPT OF THIS INFORMATION REQUEST, PROVIDE A COPY OF GREAT WESTERN'S CURRENT AIR EMISSIONS OPERATING PERMIT ISSUED BY THE MINNESOTA POLLUTION CONTROL AGENCY"

As requested, Attachment A is Great Western's "December 31, 1990" "AIR EMISSION PERMIT #1387-90-OT-3 FOR A BARGE RIVER TERMINAL AND AIR POLLUTION CONTROL EQUIPMENT."

Great Western submits the above information under an authorized signature with the following certification:

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 113(c)(2) of the Clean Air Act and 18 U.S.C. §§ 1001 and 1341.

Again, Great Western looks forward to discussing this matter with you and/or other representatives of U.S. EPA, Region 5 as soon as possible.

Sincerely,



Stephen N. Ettinger

Attachment A

cc: Mike Hansel, Barr Engineering
Jack Perry, Briggs and Morgan

March 25, 2015

Page 4

bcc: Tom Swafford
Scott Helberg
Dan White

AIR EMISSION

PERMIT NO. 1387-90-OT-3

FOR A

BARGE RIVER TERMINAL

AND

AIR POLLUTION CONTROL EQUIPMENT

According to Minnesota Statutes Chapters 115 and 116 and
Minnesota Rules Chapters 7001, 7005 and 7010

GREAT LAKES COAL & DOCK COMPANY

1031 Childs Road


St. Paul, Minnesota 55106

(hereinafter Permittee) is issued an Air Emission Permit by the Minnesota Pollution Control Agency (hereinafter Agency) for its facility located at the above address in Ramsey County, Minnesota. The permit authorizes operation of the emission unit(s) and air pollution control equipment under the conditions set forth herein.

The emission limitation(s), restrictions on operations, and control measures for particulate matter and opacity, as contained in sections II.A.1., II.A.2., III.B., III.C. and III.D., together with all testing and reporting requirements for particulate matter and opacity, as contained in sections III.A., III.D., IV. and VI, established in this permit were developed based on the need to assure the attainment and maintenance of the National Ambient Air Quality Standards. These requirements cannot be changed upon the permit's reissuance without both a demonstration that the ambient standards will continue to be attained and maintained with the change and the United States Environmental Protection Agency's (USEPA's) prior approval of the change. Furthermore, these requirements do not expire upon the permits expiration, revocation, or change in ownership of the facility.

This permit is effective for a term of five years starting on the date issued by the Commissioner.

DATED: December 31, 1990


J. Michael Valentine
Director
Air Quality Division

for Gerald L. Willet
Commissioner
Minnesota Pollution Control Agency

FACILITY DESCRIPTION

I. Overview

The Permittee operates a barge river terminal along the Mississippi River in St. Paul. The terminal receives, transfers, stores and ships bulk commodities such as coal, petroleum coke, boiler slag, salt and steel. During normal operations the commodities are received by barge, truck or rail and shipped by barge, rail or truck. The Permittee stores coal, boiler slag and petroleum coke year round for use by local businesses.

II. Emission Units and Pollution Control Equipment

The emission units, air pollution control equipment and monitoring equipment at the stationary source described above include the following:

Emission Point No. 1

Emission Unit -	Type:	Enclosed railcar receiving pit and conveyor
Control Equipment -	Type:	(2) baghouse filter systems
	Mfr.:	Carter Day Co.
	Model:	144 RJ 144
	Capacity:	46,000 cfm each
Air to Cloth Ratio:		10:1
Monitoring Equipment -		None
Stack Parameters -	Height:	20 feet
	Inside Exit Diameter:	60 inches
	Flow Rate, acfm:	92,000 @ 68°F

Emission Point No. 2

Emission Unit -	Type:	Barge loadout facility with telescoping spout
Control Equipment -	Type:	Water spray
Monitoring Equipment -		None

Emission Point No. 3

Emission Unit -	Type:	Mobile cranes and clam shell bucket
Control Equipment -		None
Monitoring Equipment -		None

III. Definitions & Abbreviations

Definition of terms and abbreviations used in this permit may be found in Minn. Rules parts 7005.0100 and 7005.0110 respectively and as defined below:

Emission Point:	The stack, chimney, vent or other functionally equivalent opening whereby emissions are exhausted to the atmosphere.
cfm:	cubic feet per minute
hr:	hour

SPECIAL CONDITIONS

The Permittee shall comply with the following special conditions in order to attain, maintain and demonstrate compliance with applicable Minnesota and federal statutes, federal regulations and Minnesota rules.

I. Ambient Standards

The Permittee shall comply with Minn. Rules parts 7005.0010-7005.0080, State Ambient Air Quality Standards, and with National Primary and Secondary Ambient Air Quality Standards, 40 CFR Part 50.

II. Emission Limits

The Permittee shall not discharge into the atmosphere pollutants in excess of the limits listed below:

II.A. Particulates

1. Particulate Matter

<u>Emission Point Nos.</u>	<u>Emission Limit</u>	<u>Limitation Basis</u>
1	Variable with a maximum of 0.018 gr/dscf at design capacity (equivalent to 1.987 grains per second)	Minn. Rules parts 7005.2860 Subp H. & Minnesota SIP modeled National PM 10 Ambient Air Quality Standard compliance

2. Opacity

<u>Emission Point Nos.</u>	<u>Emission Limit</u>	<u>Limitation Basis</u>
1	20% opacity	Minn. Rules part 7005.2860 Subp H.

II.B. Noise

The Permittee shall comply with the noise standards set forth in Minn. Rules parts 7010.0010 to 7010.0080 at all times during the operation of all emissions units.

II.C. Odor

The Permittee shall not discharge into the atmosphere from any emission unit or combination of emission units within the stationary source any gases which contain odors in excess of the amount allowed by Minn. Rules part 7005.0920.

III. Operational Requirements

The Permittee shall meet the following operational requirements. Records of any operational parameters that are recorded as directed below shall be retained for at least three years, after which time this period may be extended as advised in writing by the Director, Air Quality Division.

III.A. Shutdowns and Breakdowns

1. **Shutdown.** The owner or operator of an emission facility shall notify the Director at least 24 hours in advance of shutdown of any control equipment and, if the shutdown would cause an increase in the emission of air contaminants, of a shutdown of any process equipment. At the time of notification, the owner or operator shall also notify the Director of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Director when the shutdown is over.
2. **Breakdown.** The owner or operator of an emission facility shall notify the Director within 24 hours or less of a breakdown of more than one hour duration of any control equipment and, if the breakdown causes an increase in the emission of air contaminants, of a breakdown of any process equipment. At the time of notification or as soon thereafter as possible, the owner or operator shall also notify the Director of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Director within 24 hours when the breakdown is over.
3. **Operation changes.** In any shutdown or breakdown covered by subpart 1 or 2, the owner or operator shall immediately take all practical steps to modify operations to reduce the emission of air contaminants. The Director may require the company to modify operations to reduce emissions to comply with applicable emission limitations of air contaminants. No affected facility which has an unreasonable breakdown frequency of control equipment shall be permitted to operate. Nothing in this part shall permit the operation of an affected facility which may cause an immediate public health hazard.

4. **Monitoring equipment.** The owner or operator of a continuous monitoring system or monitoring device shall notify the Director of any breakdown or malfunction of such system or device.

III.B. Operation and Maintenance Plan

1. Operating Procedure for Handling the Bulk Commodities

- a. The Permittee shall apply a chemical (petroleum resin, acrylic cement, or asphalt emulsion) dust suppressant to the commodities received by barge when opacity exceeds 20 percent. The Permittee shall maintain a log at the facility. The log shall indicate when a dust suppressant is added to a commodity and it should be initialled by the person responsible for making the dust suppressant applications. The log shall be kept on site and be available for inspection upon request by MPCA personnel.
- b. Keep mobile hoppers full when loading trucks.
- c. Lower and open the clam shell bucket as close to the stockpile, hopper or barge as possible.
- d. Operate the water spray system continuously when loading barges.
- e. Clean up commodities spilled on roads as soon as practicable.
- f. Choke feed the railroad cars when receiving commodities.
- g. Keep the conveyor covers in place at all times when operating.
- h. Dust suppressants (petroleum resin, acrylic cement, or asphalt emulsion) shall be added to commodity stockpiles on a monthly basis. The Permittee shall maintain a log at the facility. The log shall indicate when a dust suppressant is added to a commodity and it should be initialled by the person responsible for making the dust suppressant applications. The log shall be kept on site and be available for inspection upon request by MPCA personnel.

2. Vehicular Speed Limit

The Permittee shall maintain the 10 mph speed limit signs and ensure that all vehicular traffic complies with the 10 mph speed limit.

3. Road and Access Area Dust Control

The Permittee shall utilize the watering truck except during freezing weather and when raining to water/clean all roads and access areas such that the resuspension of particulate matter does not exceed 20 percent opacity.

III.C. Fugitive Emissions

1. The Permittee shall not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne.

The Permittee shall not cause or permit a building or its appurtenances or a road, or a driveway, or an open area to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. The director may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including, but not limited to, paving or frequent clearing of roads, driveways, and parking lots; application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover. (Minn. Rules part 7005.0550). The Permittee should note, it is unlawful to place used oil in or on the land, unless approved by the Agency in accordance with Minnesota Statutes Section 115A.916.

2. Ash, Residue Emissions

The Permittee shall control all fugitive residue emissions in a manner which will prevent avoidable amounts of particulate matter from becoming airborne. All residue haul trucks containing dry, fine particulate matter leaving the facility must be covered.

III.D. Commodity Throughput Limitation

The Permittee shall limit the commodity throughput in each calendar month to no more than the amount listed in the table following:

January	112,500 tons
February	112,500 tons
March	150,000 tons
April	300,000 tons
May	375,000 tons
June	375,000 tons
July	375,000 tons
August	375,000 tons
September	300,000 tons
October	225,000 tons
November	150,000 tons
December	150,000 tons
12 month annual total	3,000,000 tons

In any month in which the commodity throughput exceeds the amount in the table above, the Permittee shall submit a written report to the Director of the monthly commodity throughput for all calendar months in that calendar year.

IV. Compliance Demonstration

The Permittee shall demonstrate compliance with applicable permit conditions, Minnesota and federal statutes, federal regulations and Minnesota rules by the following methods, and in accordance with the applicable exhibits:

<u>Emission Point Nos.</u>	<u>Compliance Determination Method</u>	<u>Pollutant</u>	<u>Frequency</u>	<u>Special Condition and/or Exhibit</u>
1	Performance test	Opacity	As requested by the Director	C
1	Performance test Methods 201 & 201A promulgated at 55 Federal Register 14246 (April 17, 1990)	PM10	Once, within 90 days of permit reissuance; Again within 6 months of permit renewal, and as requested by the Director	C

V. Residual Materials

The Permittee shall dispose of particulates, sludges, or other wastes generated by the operation of any emission unit(s) and/or air pollution control equipment according to solid waste rules (Minn. Rules Chapter 7035) and hazardous waste rules (Minn. Rules Chapter 7045). The Permittee shall contain and dispose of scrubber water according to water quality rules (Minn. Rules parts 7050, 7056, 7060 and 7065).

VI. Submittal Summary

The Permittee is required by previous parts or Special Conditions of this permit to submit to the Agency the following reports and/or other documents according to the schedules identified below.

The Agency may grant extension of time schedules stated herein if requests for extensions are submitted in a timely fashion and good cause exists for granting the extension. All extensions must be requested by the Permittee in writing. The request shall specify the reason(s) why the extension is needed. Extensions shall only be granted for such period of time as the Director or MPCA Board determines is reasonable under the circumstances. A requested extension shall not be effective until approved by the Director, Air Quality Director or MPCA Board.

<u>Reports</u>	<u>Schedule</u>	<u>Required by</u>
Commodity throughput & commodity Storage	Annually (due January 25th following the applicable year)	Pt. III.D.

Reports

Schedule

Required by

Performance test
results

Within 60 days of test date Pt. IV.

GENERAL CONDITIONS

The Permittee shall comply with the attached general conditions, attached as Exhibit A, in order to attain, maintain and demonstrate compliance with applicable Minnesota or federal statutes, federal regulations and Minnesota rules.

mlp173

EXHIBIT A

GENERAL CONDITIONS

1. The Agency's issuance of a permit does not release the Permittee from any liability, penalty, or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit.
2. The Agency's issuance of a permit does not prevent the future adoption by the Agency of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the Permittee.
3. The permit does not convey a property right or an exclusive privilege.
4. The Agency's issuance of a permit does not obligate the Agency to enforce local laws, rules, or plans beyond that authorized by Minnesota statutes.
5. The Permittee shall perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the Agency and in compliance with the conditions of the permit.
6. The Permittee shall at all times properly operate and maintain the facilities and systems of treatment and control and the appurtenances related to them which are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The Permittee shall install and maintain appropriate back-up or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit and, for all permits other than hazardous waste facility permits, if these back-up or auxiliary facilities are technically and economically feasible.
7. The Permittee may not knowingly make a false or misleading statement, representation, or certification in a record, report, plan, or other document required to be submitted to the Agency or to the Director by the permit. The Permittee shall immediately upon discovery report to the Director an error or omission in these records, reports, plans, or other documents.

13. The Permittee shall give advance notice to the Director as soon as possible of planned physical alterations or additions to the permitted facility or activity that may result in noncompliance with a Minnesota or federal pollution control statute or rule or a condition of the permit.
14. The permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. Rules part 7001.0190 subp. 2. A person to whom the permit has been transferred shall comply with the conditions of the permit.
15. The permit authorizes the Permittee to perform the activities described in the permit under the conditions of the permit. In issuing the permit, the State and Agency assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under the permit. To the extent the State and Agency may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minnesota Statutes, section 3.736.
16. The Permittee shall submit an emission inventory report as requested by the Agency. The Permittee shall include in the report the number of tons of pollutants emitted during the requested year, stack gas flow rates (acfm) and velocities (fpm) or any other information required by the Agency to verify the emissions.

FORMS 13

FACILITY DESCRIPTIONI. Overview

The Permittee operates a barge river terminal along the Mississippi River in St. Paul. The terminal receives, transfers, stores and ships bulk commodities such as coal, petroleum coke, boiler slag, salt and steel. During normal operations the commodities are received by barge, truck or rail and shipped by barge, rail or truck. The Permittee stores coal, boiler slag and petroleum coke year round for use by local businesses.

II. Emission Units and Pollution Control Equipment

The emission units, air pollution control equipment and monitoring equipment at the stationary source described above include the following:

Emission Point No. 1

Emission Unit -	Type:	Enclosed railcar receiving pit and conveyor
Control Equipment -	Type:	(2) baghouse filter systems
	Mfr.:	Carter Day Co.
	Model:	144 RJ 144
	Capacity:	46,000 cfm each
Air to Cloth Ratio:		10:1

Monitoring Equipment - None

Stack Parameters -	Height:	20 feet
Inside Exit Diameter:		60 inches
Flow Rate, acfm:		92,000 @ 68°F

Emission Point No. 2

Emission Unit -	Type:	Barge loadout facility with telescoping spout
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Control Equipment -	Type:	Water spray
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Monitoring Equipment - None

Emission Point No. 3

Emission Unit -	Type:	Mobile cranes and clam shell bucket
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Control Equipment - None

Monitoring Equipment - None

VISIBLE EMISSION OBSERVATION FORM

This form is designed to be used in conjunction with EPA Method 9. "Visual Determination of the Opacity of Emissions from Stationary Sources." Any deviations, unusual conditions, circumstances, difficulties, etc., not dealt with elsewhere on the form should be fully noted in the section provided for comments. Following are brief descriptions of the type of information that needs to be entered on the form; for a more detailed discussion of each part of the form, refer to the "User's Guide to the Visible Emission Observation Form."

*Source Name - full company name, parent company or division information, if necessary.

*Address - street (not mailing) address or physical location of facility where VE observation is being made.

Phone - self-explanatory.

Source ID Number - number from NEDS, CDS, agency file, etc.

*Process Equipment, Operating Mode - brief description of process equipment (include ID no.) and operating rate, % capacity utilization, and/or mode (e.g., charging, tapping).

*Control Equipment, Operating Mode - specify control device type(s) and % utilization, control efficiency.

*Describe Emission Point - stack or emission point location, geometry, diameter, color; for identification purposes.

*Height Above Ground Level - stack or emission point height, from files or engineering drawings.

*Height Relative to Observer - indicate vertical position of observation point relative to stack top.

*Distance From Observer - distance to stack $\pm 10\%$; to determine, use rangefinder or map.

*Direction From Observer - direction to stack; use compass or map; be accurate to eight points of compass.

*Describe Emissions - include plume behavior and other physical characteristics (e.g., looping, lacy, condensing, fumigating, secondary particle formation, distance plume visible, etc.).

*Emission Color - gray, brown, white, red, black, etc.

Plume Type:

- Continuous - opacity cycle > 6 minutes
- Fugitive - no specifically designed outlet
- Intermittent - opacity cycle < 6 minutes

**Water Droplets Present - determine by observation or use wet sling psychrometer; water droplet plumes are very white, opaque, and billowy in appearance, and usually dissipate rapidly.

****If Water Droplet Plume:**

- Attached - forms prior to exiting stack
- Detached - forms after exiting stack

**Point in the Plume at Which Opacity was Determined - describe physical location in plume where readings were made (e.g., 4 in. above stack exit or 10 ft after dissipation of water plume).

*Describe Background - object plume is read against, include atmospheric conditions (e.g., hazy).

*Background Color - blue, white, new leaf green, etc.

*Sky Conditions - indicate cloud cover by percentage or by description (clear, scattered, broken, overcast, and color of clouds).

*Windspeed - use Beaufort wind scale or hand-held anemometer; be accurate to ± 5 mph.

*Wind Direction - direction wind is from; use compass; be accurate to eight points.

*Ambient Temperature - in $^{\circ}\text{F}$ or $^{\circ}\text{C}$.

**Wet Bulb Temperature - the wet bulb temperature from the sling psychrometer.

**Relative Humidity - use sling psychrometer; use local U.S. Weather Bureau only if nearby.

*Source Layout Sketch - include wind direction, associated stacks, roads, and other landmarks to fully identify location of emission point and observer position.

Draw North Arrow - point line of sight in direction of emission point, place compass beside circle, and draw in arrow parallel to compass needle.

Sun Location Line - point line of sight in direction of emission point, place pen upright on sun location line, and mark location of sun when pen's shadow crosses the observers position.

**Comments - factual implications, deviations, alterations, and/or problems not addressed elsewhere.

Acknowledgment - signature, title, and date of company official acknowledging receipt of a copy of VE observation form.

*Observation Date - date observations conducted.

*Start Time, Stop Time - beginning and end times of observation period (e.g., 1635 or 4:35 p.m.).

*Data Set - percent opacity to nearest 5%; enter from left to right starting in left column.

*Average Opacity for Highest Period - average of highest 24 consecutive opacity readings.

Number of Readings Above (Frequency Count) - count of total number of readings above a designated opacity.

***Range of Opacity Readings:**

- Minimum - lowest reading
- Maximum - highest reading

*Observer's Name - print in full.

Observer's Signature, Date - sign and date after performing final calculations.

*Organization - observer's employer.

*Certifier, Date - name of "smoke school" certifying observer and date of most recent certification.

Verifier, Date - signature of person responsible for verifying observer's calculations and date of verification.

*Required by Reference Method 9; other items suggested.

**Required by Method 9 only when particular factor could affect the reading.

Figure 4.2. Reverse side of form. (Continued)

EXHIBIT 2

PERFORMANCE TEST PROCEDURES

A. Independent Testing Company

The owner/operator shall engage an independent testing company to conduct performance tests. However, interim performance tests may be conducted by the owner/operator at the discretion of the Manager, Air Quality Division (AQD). The owner/operator may furnish electrical service, laboratory facilities and other such facilities to an independent testing company in any case.

B. Test Location Approval

The location, number of test ports, and the need for straightening vanes must be approved by the AQD Manager before any test.

C. Pretest Meeting

For the purpose of establishing conditions and requirements of a performance test, a pre-test meeting with the MPCA staff, owner/operator and testing company personnel must be held at least seven (7) days prior to the performance test. The test date must be approved by AQD Manager at least 15 days before the planned testing date.

D. Test Methods

1. General

Performance tests shall be conducted in accordance with the following requirements:

- a. U.S. Environmental Protection Agency (EPA) Reference Methods (40 C.F.R. 60.344, Appendix A);
- b. Minnesota Rules;
- c. Procedures specified below;
- d. Special conditions of the Order or requirements specified by the AQD Manager.

2. Particulate Matter under 10 microns (PM-10) - PM10 emissions shall be determined by EPA methods 1-4, 201/201A for PM promulgated at 55 Federal Register 14246 (April 17, 1990) and 202 for condensibles (both organic and inorganic) which will be promulgated by EPA.

3. Opacity - Opacity shall be determined by EPA Method 9.

E. Test Conditions

1. Combustion Sources

a. Existing Sources and Sources Subject only to State Permit Rules.

- 1) Combustion emission sources such as furnaces, kilns, boilers, etc. shall be operated during the test at 100% of the manufacturer's rated capacity.
- 2) Existing boilers that had been derated shall be operated during the test at a minimum of 100% of the derated capacity allowed by the permit.
- 3) For unit sizes below 50×10^6 Btu/hr some of the test conditions and requirements listed in Part E.1.c. of this Exhibit, may be waived by the AQD Manager to meet simplified equipment and operating modes of smaller installations.

b. Sources subject to New Source Performance Standards (NSPS).

- 1) Combustion emission sources such as furnaces, kilns, boilers, etc. shall be operated during the test at 100% of the manufacturer's rated capacity.
- 2) The only exceptions to this are where the owner/operator has documented the fact that the source is physically incapable of operation at design capacity and/or there is a state/federal enforceable order or permit limiting operation to a reduced capacity. In case the source is derated, the test shall be conducted at 100% of the allowed derated capacity.
- 3) The amendments to NSPS Subpart A - General Provisions published in the Federal Register of December 27, 1985, require a minimum total time of opacity observations of three (3) hours for the purpose of demonstrating initial compliance. Opacity observations shall be conducted concurrently with the performance test for PM₁₀.
- 4) Where compliance with opacity regulations is to be demonstrated nonconcurrently with stack testing on a subject boiler or stack, three 1-hour sets of visible emission observations shall be conducted under the following conditions:
 - a) Observation shall be performed by a certified visible emissions evaluator in accordance with Method 9, 40 CFR Part 60, Appendix A.
 - b) Two visible emission observation sets shall be performed while the unit is operated at the conditions required by Part E.1.b and E.1.c. of this Exhibit.

- c) One visible emission observation set shall be performed while the unit is operated at maximum attainable load during a normal soot blowing cycle which is consistent with maximum frequency and duration normally experienced for the total testing period. Boilers operating in a peaking or cycling mode are required to operate the unit during this run at a changing load representative of normal operation.
- 5) The source must meet all the conditions found at 40 CFR Part 60 Subpart A - General Provisions; as well as the specific NSPS requirements according to source type.
- c. The following requirements apply to all combustion sources:
 - 1) At least one of the three test runs shall be conducted during a normal soot blowing cycle which is consistent with maximum frequency and duration normally experienced for the total testing period. The arithmetic average of the three runs will form the basis for a compliance determination.
 - 2) Stoker-fired boilers and other sources as determined by the AQD Manager, are required to pull ashes during one or more test runs. The arithmetic average of the three runs will form the basis for a compliance determination. This must coincide with the run when soot is being blown.
 - 3) Boilers operating in a peaking or cycling mode are required to operate the unit at a load change representative of normal operation during one of the test runs. This run may coincide with the run when ashes are being pulled and soot blown. The arithmetic average of the three runs will form the basis for a compliance determination.
 - 4) Sources equipped with only mechanical collector, venturi scrubbers without variable throat and hot-side electrostatic precipitators are required to conduct an additional test for particulate matter, while the combustion source is operating at 50% of the design capacity. Soot blowing and pulling of ashes shall be included during one of the runs as specified in paragraphs E.1.c.1) and E.1.c.2) of this Exhibit.
 - 5) Unless the owner/operator is engaged in a compliance schedule that involves rehabilitation before testing, the owner/operator shall not conduct any major rehabilitation or cleaning before the test other than normal maintenance operations done on a routine basis. The owner/operator shall describe in the test report any maintenance work done before the test and indicated how often this is done.
 - 6) The owner/operator shall burn "the worst quality fuel" allowed by permit conditions. Fuel sampling and analysis shall be performed according to ASTM Reference Methods, or as approved by U.S. EPA and the State of Minnesota.

- 7) Each unit shall be operated under "normal operating procedures" which shall be defined as maintenance of operational parameters at levels consistent with levels maintained during daily usage of the boiler(s) at maximum load. Operating parameters include:
 - a) MW gross loading
 - b) heat input
 - c) steam flow
 - d) steam temperature
 - e) steam pressure
 - f) combustion air flow (lb/hr)
 - g) soot blowing cycle
 - h) coal feed rate to boiler (T/hr)
 - i) oxygen levels at economizer inlet
- 8) Operation of electrostatic precipitators (ESPs) shall comply with "normal operating conditions." "Normal operating conditions" for an ESP include:
 - a) FGC injection rates, where applicable
 - b) primary and secondary volts
 - c) primary and secondary amps
 - d) inlet flue gas temperature
 - e) ash removal
 - f) spark rate
 - g) rapping cycle
- 9) Operation of other control devices such as baghouses, multiclones or scrubbers shall comply with "normal operating conditions." "Normal operating conditions" include:
 - a) pressure drop across control device
 - b) inlet flue gas temperature
 - c) cleaning cycle
 - d) ash removal
 - e) liquid to gas ratio
- 10) All the operating loads and parameters must be documented in the test report showing chart recordings and calculations.
- 11) All the continuous monitor strip charts for the day(s) of testing shall be submitted. These shall be dated, signed, and all the chart factors must be sufficiently explained to avoid any kind of ambiguity in reading the charts.

- 12) Visible emission observations shall be performed by a certified observer in accordance with U.S. EPA Method 9, 40 CFR Part 60, Appendix A, throughout the test period. Visible emissions shall be observed during the period of the test for sixty consecutive minutes; i.e. one series of readings for each condition tested. The test will comprise 240 consecutive readings and shall be obtained concurrently with the run of the particulate sampling test when soot is being blown and ashes pulled. The appended visible emission data form should be used and copies included in the report. EPA Method 9 as amended in Minn. Rules part 7005.1860 Subp. 7 shall be followed.

2. Process Sources

- a. Non-combustion emission sources not subject to New Source Performance Standards (NSPS) shall be operated during the test at 100% design capacity or maximum capacity allowed by the permit and the owner/operator of the facility shall furnish adequate demonstration of the production at the time of the test.
- b. Sources subject to NSPS shall be operated using the test at 100% of the design capacity. The only exceptions to this are where the owner/operator has documented that the source is physically incapable of operation at design capacity and/or there is a state/federal enforceable order or permit limiting operation to a reduced capacity. The source must meet all the requirements found at 40 CFR Part 60 Subpart A - NSPS General Provisions; as well as the specific requirements according to the source type.
- c. Sources may be required to conduct additional tests at reduced capacities if the AQD Manager defines it as a necessary condition to represent "the worst case operation."
- d. NSPS sources, initial test: Pursuant to the amendments to the opacity provisions published in Federal Register of December 27, 1985, sources subject to New Source Performance Standards are required a minimum total time of opacity observations of three (3) hours for the purpose of demonstrating initial compliance. Opacity observations shall be conducted concurrently with the initial performance test for particulates.
- e. Visible emissions shall be observed during the period of the test for sixty consecutive minutes (i.e. one series of readings for each condition tested). The test will comprise 240 consecutive readings and shall be obtained concurrently with a run of the particulate sampling test. EPA Method 9 as amended in Minn. Rules part 7005.1860 subpart 7 shall be followed.
- f. In case opacity measurements are conducted at a different time than during the PM10 test, the observation of visible emissions shall be conducted in accordance with the conditions required by paragraphs E.2.a., E.2.b. and E.2.c. of this Exhibit.

g. All operating loads and parameters must be documented in the test report showing all chart recordings and calculations. All charts must be dated, signed and all the chart factors must be sufficiently explained to avoid any kind of ambiguity in reading the charts.

3. Runs

A test shall comprise three runs of at least one hour each. The time of sampling at each point shall be a minimum of two (2) minutes, and the minimum sample volume shall be 30 SCF (dry). Under special circumstances, e.g., process problems, inclement weather, etc., the AQD Manager may deem that two runs will be accepted as sufficient for determination of compliance.

4. Pitot Tube Calibration

Pitot tube inspections and necessary calibrations shall be done at least once per year or after any incident which may affect calibration. Gas meter calibrations shall be done at a frequency such that no more than 1000 CFM shall be measured between calibrations. These calibration sheets must be included in the test report.

5. Orsat Analysis

Two gas samples for Orsat analysis must be taken at 1/2 hour intervals, or one continuous sample may be collected for each run.

6. Filters

Filters shall be numbered and filter number reported with the initial and final filter weights. Weights should be recorded in a weights book which must be available for inspection. Front half washings shall be reported independently of filter catch.

7. Gas Velocities

The gas velocities used in calculating stack gas flow rates and pollutant mass emission rate shall be those obtained while collecting the sample

8. Safety and Access

A safe working platform and access thereto shall be provided at the sampling site.

9. Good Testing Practices

Failure to follow good testing practices will jeopardize the validity of the test and may lead to rejection of one or more runs.

Failure to submit the required information on plant operating conditions, fuel analysis, visible emissions, etc. shall be cause for the AQD Manager not to approve the performance test.

F. Witnessing

A compliance test may be witnessed by either MPCA or EPA staff.

G. Reporting

1. Responsibility to Submit Test Results

The forms at the end of this Exhibit shall be signed by the responsible supervisor of the facility and shall be submitted to the MPCA with (2) copies of the performance test results.

It shall be the responsibility of the owner/operator of the source to furnish the information required in the appropriate form.

All performance test reports shall be submitted to the MPCA whether or not the test data indicates compliance with applicable emission limitations; and whether or not the test was conducted for the purpose of demonstrating compliance with an applicable emission limit.

The report should clearly state members of the testing team and a responsible party should sign the report, as well as the principal author(s).

2. Performance Test Report Format

a. Summary Tables

The report shall include a summary table(s) showing the most relevant information, data, and results. This should include the applicable emission rate: pounds per million BTU, grains per dry standard cubic foot or pounds per hour calculated by all of the following methods:

- 1) The dry standard volumetric method
- 2) The ratio of areas method
- 3) The F factor method (for pounds per million Btu only)

b. Schematic Drawing

The report shall include a schematic drawing of the entire flue gas exhaust system from the boiler to the top of the stack. Show location of the sampling points and include all pertinent dimensions. Include all flow disturbances, i.e., elbows, dampers, fans, constrictions, collection equipment, etc.

c. Identification of Sources

The report shall clearly state what is being tested; for example, "Babcock & Wilcox Boiler, Model 169, Designated Unit #3 by ZYZ Municipal Power Plant, firing pulverized Eastern Kentucky coal at an average rate of 10,000 pounds per hour, and producing an average of 110,000 pounds of steam per hour. This unit exhausts through a Western Multiclone. Flyash reinjection is permanently disconnected."

d. Use of Exhibit 2

Exhibit 2 forms shall be completed at the time of the test run and separate Exhibit 2 forms shall be completed for each source.

3. Report Submittal

The performance test report and an additional copy of the report shall be submitted to:

Unit Supervisor, Compliance Determination Unit
Compliance and Enforcement Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155

4. Submittal Schedule

Performance test reports shall be submitted by the owner/operator no later than 45 days following completion of the performance test.

REQUIRED DATA
for
COMBUSTION SOURCES

Company Name _____

C. Fuel Input

1. Itemize all fuels and materials that are added to the combustion process during the test period. Attach ultimate analysis of the fuel.

FUEL DESCRIPTION	INPUT	&	As Rec'd	HEAT INPUT
Coal: State, City, Mine	(LBS/HR)	MOISTURE	(BTU/LB)	(BTU/HR)
Oil: Specify Grade	(GAL/HR)	As Rec'd	(BTU/GAL)	

No. 1

No. 2

No. 3

TOTAL

2. Are the above fuels substantially the same as those normally burned _____. If not, explain _____
3. Are the above fuels normally burned in the proportions shown above _____. If not, explain _____
4. Describe any changes anticipated for procurement of fuels within the next twelve (12) months. _____

D. Equipment & Operating Data

1. Furnace No. _____
2. Furnace Mfg. _____
3. Type of Firing _____
4. Furnace operating under normal operating conditions No ____;
Yes ____.

5. Specify normal soot blowing frequency:

a) source operating time blowing soot: _____ minutes/shift

b) number of shifts per day _____

6. Specify soot blowing time during the test: start _____
end _____ When was the last time before the test
that you blew soot: (date &
time) _____

7. Specify normal ash pulling frequency:

a) source operating time pulling ashes: _____ minutes/shift

b) number of shifts per day _____

8. Specify ash pulling time during the test: start _____
end _____ When was the last time before the test
that you pulled ashes: (date & time) _____

9. Date and procedures of last maintenance/cleaning of the
boiler (please attach)

E. Instrument Data

1. Include a copy of chart records during test for the
combustion efficiency indices (CO, O₂, CO₂, combustibles,
steam flow, air flow, etc.)

F. Air Pollution Control Equipment

1. Type/model control equipment _____
2. Air pressure drop across the control equipment _____
3. Air flow through the control equipment _____
4. Was the control equipment operating normally? _____
5. Date and procedures of last maintenance/cleaning of control
equipment.

Plant Operator's Certification

I certify that the information submitted herein is accurate
and correct and that no information requested was withheld
from MPCA, Division of Air Quality.

By _____, Position _____

REQUIRED DATA
for
PROCESS EMISSIONS

Company Name _____

C. Equipment & Operating Data

1. Process Equip. No./Ident. _____.
2. Process Equip. Description _____
_____.
3. Process equipment operating under normal operating conditions:
No _____. Yes _____. Process rate during the test _____.
(raw materials or finished product)

D. Instrument Data on Process Equipment

1. Include copy of production records or instrumentation which indicates rate of production or operation of the equipment, i.e. units per hour, lbs. per hour, pressure, air flow, etc.

E. Air Pollution Control Equipment

1. Type/model control equipment _____.
2. Air pressure drop across the control equipment _____.
3. Air flow through the control equipment _____.
4. Was the control equipment operating normally? _____.
5. Data of last major maintenance/cleaning of control equipment _____
_____.

F. Plant Manager's Certification

I certify that the information submitted herein is accurate and correct and that no information requested was withheld from MPCA, Division of Air Quality.

By _____, Position _____

mlp47:21
Revised May 1987

EXHIBIT C

PERFORMANCE TEST PROCEDURES

A. Independent Testing Company

The Permittee shall engage an independent testing company to conduct performance tests. However, interim performance tests may be conducted by the Permittee at the discretion of the Director. The Permittee may furnish electrical service, laboratory facilities and other such facilities to an independent testing company in any case.

B. Test Location Approval

The location, number of test ports, and the need for straightening vanes must be approved by the Director before any test.

C. Pretest Meeting

For the purpose of establishing conditions and requirements of a performance test, a pre-test meeting with the Agency staff, Permittee, and testing company personnel must be held at least seven (7) days prior to the performance test. The test date must be approved by the Director at least 15 days before the planned testing date.

D. Test Methods

1. General

Performance tests shall be conducted in accordance with the following requirements:

- a. U.S. Environmental Protection Agency (EPA) Reference Methods (40 C.F.R. 60.344, Appendix A);
- b. Minnesota Rules;
- c. Procedures specified below;
- d. Special conditions of the permit or requirements specified by the Director, Division of Air Quality.

2. Particulate Matter - Particulate matter emissions shall be determined by EPA Methods 1-5. <Condensable matter shall be determined by the Method 5 modification specified in Minn. Rules part 7005.0500.>

3. Opacity - Opacity shall be determined by EPA Method 9.

4. Sulfur Dioxide - Sulfur dioxide emissions shall be determined by EPA Methods 6, 6A, or 6B. For determination of sulfur dioxide removal efficiency, EPA Method 19 or 20 must be used.

The testing company shall analyze audit samples supplied by the EPA or the MPCA.

5. Nitrogen Oxides - Nitrogen oxides emissions shall be determined by EPA Methods 7 or 7A. For determination of removal efficiency, EPA Methods 19 or 20 shall be used. The testing company shall analyze audit samples supplied by the EPA or the MPCA.
6. Odor - Odor shall be determined by ASTM Method D1391-78 and that described by D.M. Benforado et al. in J.A.P.C.A. Vol. 19 No. 2 pgs. 101-105, February 1969. Other methods may be used upon approval by the Director.
7. Noise - Noise shall be determined by methods contained in Minn. Rules parts 7010.0100 to 7010.0700.
8. Other Pollutants - These determinations shall be conducted by EPA Reference Methods. Other Reference Methods (ASTM, NIOSH, ASME) and non-reference test methods or alternative methods may be used upon approval by the Director.

E. Test Conditions

1. Combustion Sources

a. Existing Sources and Sources Subject only to State Rules.

- 1) Combustion emission sources such as furnaces, kilns, boilers, etc. shall be operated during the test at 100% of the manufacturer's rated capacity.
- 2) Existing boilers that had been derated shall be operated during the test at a minimum of 100% of the derated capacity allowed by the permit.
- 3) For unit sizes below 50×10^6 Btu/hr some of the test conditions and requirements listed in Part E.1.c. of this Exhibit, may be waived by the Director to meet simplified equipment and operating modes of smaller installations.

b. Sources subject to New Source Performance Standards (NSPS).

- 1) Combustion emission sources such as furnaces, kilns, boilers, etc. shall be operated during the test at 100% of the manufacturer's rated capacity.
- 2) The only exceptions to this are where the Permittee has documented the fact that the source is physically incapable of operation at design capacity and/or there is a State/Federal enforceable order or permit limiting

operation to a reduced capacity. In case the source is derated, the test shall be conducted at 100% of the allowed derated capacity.

- 3) The amendments to NSPS Subpart A - General Provisions published in the Federal Register of December 27, 1985, require a minimum total time of opacity observations of three (3) hours for the purpose of demonstrating initial compliance. Opacity observations shall be conducted concurrently with the initial performance test for particulates.
 - 4) Where compliance with opacity regulations is to be demonstrated nonconcurrently with stack testing on a subject boiler or stack, three 1-hour sets of visible emission observations shall be conducted under the following conditions:
 - a) Observation shall be performed by a certified visible emissions evaluator in accordance with Method 9, 40 CFR Part 60, appendix A.
 - b) Two visible emission observation sets shall be performed while the unit is operated at the conditions required by Part E.1.b and E.1.c. of this Exhibit.
 - c) One visible emission observation set shall be performed while the unit is operated at maximum attainable load during a normal soot blowing cycle which is consistent with maximum frequency and duration normally experienced for the total testing period. Boilers operating in a peaking or cycling mode are required to operate the unit during this run at a changing load representative of normal operation.
 - 5) The source must meet all the conditions found at 40 CFR Part 60 Subpart A - General Provisions; as well as the specific NSPS requirements according to source type.
- c. The following requirements apply to all combustion sources:
- 1) At least one of the three test runs shall be conducted during a normal soot blowing cycle which is consistent with maximum frequency and duration normally experienced for the total testing period. The arithmetic average of the three runs will form the basis for a compliance determination.
 - 2) Stoker-fired boilers and other sources as determined by the Director, are required to pull ashes during one or more test runs. The arithmetic average of the three

runs will form the basis for a compliance determination. This must coincide with the run when soot is being blown.

- 3) Boilers operating in a peaking or cycling mode are required to operate the unit at a load change representative of normal operation during one of the test runs. This run may coincide with the run when ashes are being pulled and soot blown. The arithmetic average of the three runs will form the basis for a compliance determination.
- 4) Sources equipped with only mechanical collector, venturi scrubbers without variable throat and hot-side electrostatic precipitators are required to conduct an additional test for particulate matter, while the combustion source is operating at 50% of the design capacity. Soot blowing and pulling of ashes shall be included during one of the runs as specified in paragraphs E.1.c.1) and E.1.c.2) of this Exhibit.
- 5) Unless the Permittee is engaged in a compliance schedule that involves rehabilitation before testing, the Permittee shall not conduct any major rehabilitation or cleaning before the test other than normal maintenance operations done on a routine basis. The Permittee shall describe in the test report any maintenance work done before the test and indicate how often this is done.
- 6) The Permittee shall burn "the worst quality fuel" allowed by permit conditions. Fuel sampling and analysis shall be performed according to ASTM Reference Methods, or as approved by U.S. EPA and the State of Minnesota.
- 7) Each unit shall be operated under "normal operating procedures" which shall be defined as maintenance of operational parameters at levels consistent with levels maintained during daily usage of the boiler(s) at maximum load. Operating parameters include:
 - a) MW gross loading
 - b) heat input
 - c) steam flow
 - d) steam temperature
 - e) steam pressure
 - f) combustion air flow (lb/hr)
 - g) soot blowing cycle
 - h) coal feed rate to boiler (T/hr)
 - i) oxygen levels at economizer inlet
- 8) Operation of electrostatic precipitators (ESPs) shall comply with "normal operating conditions". "Normal operating conditions" for an ESP include:

- a) FGC injection rates, where applicable
 - b) primary and secondary volts
 - c) primary and secondary amps
 - d) inlet flue gas temperature
 - e) ash removal
 - f) spark rate
 - g) rapping cycle
- 9) Operation of other control devices such as baghouses, multiclones or scrubbers shall comply with "normal operating conditions". "Normal operating conditions" include:
- a) pressure drop across control device
 - b) inlet flue gas temperature
 - c) cleaning cycle
 - d) ash removal
 - e) liquid to gas ratio
- 10) All the operating loads and parameters must be documented in the test report showing chart recordings and calculations.
- 11) All the continuous monitor strip charts for the day(s) of testing shall be submitted. These shall be dated, signed, and all the chart factors must be sufficiently explained to avoid any kind of ambiguity in reading the charts.
- 12) Visible emission observations shall be performed by a certified observer in accordance with U.S. EPA Method 9, 40 CFR Part 60, Appendix A, throughout the test period. Visible emissions shall be observed during the period of the test for sixty consecutive minutes; i.e. one series of readings for each condition tested. The test will comprise 240 consecutive readings and shall be obtained concurrently with the run of the particulate sampling test when soot is being blown and ashes pulled. The appended visible emission data form should be used and copies included in the report. EPA Method 9 as amended in Minn. Rules part 7005.1860 Subp. 7 shall be followed.

2. Process Sources

- a. Non-combustion emission sources not subject to New Source Performance Standards (NSPS) shall be operated during the test at 100% design capacity or maximum capacity allowed by the permit and the owner/operator of the facility shall furnish adequate demonstration of the production at the time of the test.
- b. Sources subject to NSPS shall be operated using the test at 100% of the design capacity. The only exceptions to this

are where the Permittee has documented that the source is physically incapable of operation at design capacity and/or there is a State/Federal enforceable order or permit limiting operation to a reduced capacity. The source must meet all the requirements found at 40 CFR Part 60 Subpart A - NSPS General Provisions; as well as the specific requirements according to the source type.

- c. Sources may be required to conduct additional tests at reduced capacities if the Director defines it as a necessary condition to represent "the worst case operation".
- d. NSPS sources, initial test: Pursuant to the amendments to the opacity provisions published in Federal Register of December 27, 1985, sources subject to New Source Performance Standards are required a minimum total time of opacity observations of three (3) hours for the purpose of demonstrating initial compliance. Opacity observations shall be conducted concurrently with the initial performance test for particulates.
- e. Visible emissions shall be observed during the period of the test for sixty consecutive minutes i.e. one series of readings for each condition tested. The test will comprise 240 consecutive readings and shall be obtained concurrently with a run of the particulate sampling test. EPA Method 9 as amended in Minn. Rules part 7005.1860 subpart 7 shall be followed.
- f. In case opacity measurements are conducted at a different time than during the particulated test, the observation of visible emissions shall be conducted at all the conditions required by paragraphs E.2.a., E.2.b. and E.2.c. of this Exhibit.
- g. All operating loads and parameters must be documented in the test report showing all chart recordings and calculations. All charts must be dated, signed and all the chart factors must be sufficiently explained to avoid any kind of ambiguity in reading the charts.

3. Runs

A test shall comprise three runs of at least one hour each. The time of sampling at each point shall be a minimum of two (2) minutes, and the minimum sample volume shall be 30 SCF (dry). Under special circumstances, e.g., process problems, inclement weather, etc., the Director of the Air Quality Division may deem that two runs will be accepted as sufficient for determination of compliance.

4. Pitot Tube Calibration

Pitot tube inspections and necessary calibrations shall be done at least once per year or after any incident which may affect calibration. Gas meter calibrations shall be done at a frequency such that no more than 1000 CFM shall be measured between calibrations. These calibration sheets must be included in the test report.

5. Orsat Analysis

Two gas samples for Orsat analysis must be taken at 1/2 hour intervals, or one continuous sample may be collected for each run.

6. Multiple Particulate Samples

If multiple samples are to be taken using the same nozzle, probe, and cyclone, the particulate collected in these must be removed after each run. Cleaning of this front half of the apparatus should be with distilled water followed by acetone. The probe should be scrubbed with a stiff brush while irrigating with water followed by acetone, as prescribed in EPA Method 5.

7. Filters

Filters shall be numbered and filter number reported with the initial and final filter weights. Weights should be recorded in a weights book which must be available for inspection. Front half washings shall be reported independently of filter catch.

8. Gas Velocities

The gas velocities used in calculating stack gas flow rates and pollutant mass emission rate shall be those obtained while collecting the sample.

9. Condensible Particulate Matter

In the event that emissions from any industrial process equipment contain condensible organic vapors which condense at standard conditions of temperature and pressure, the following changes in EPA Method 5 for determining particulate emissions shall be made:

- a. Paragraph 4.2 (Sample Recovery) in EPA Method 5 is amended to read as follows:

4.2 Sample Recovery. Exercise care in moving the collection train from the test site to the sample recovery area so as to minimize the loss of collected sample or the

gain of extraneous particulate matter. Set aside a portion of the acetone and water used in the sample recovery as a blank for analysis. Place the samples in containers as follows:

Container #1. Remove the filter from its holder, place in this container, and seal.

Container #2. Place loose particulate matter and water and acetone washings from all sample-exposed surfaces preceding the filter paper in this container and seal. The probe and nozzle should be scrubbed with a stiff brush and distilled water, followed by an acetone rinse. If these solvents do not do a good cleaning job, an adequate solvent must be found and used. Use a razor blade or rubber policeman to loosen adhering particles if necessary.

Container #3. Measure the volume of water from the first three impingers and place the water in this container. Place water rinsings of all sample-exposed surfaces between the filter and fourth impinger in this container prior to sealing.

Container #4. Transfer the silica gel from the fourth impinger to the original container and seal. Use a rubber policeman as an aid in removing silica gel from the impinger.

Container #5. Thoroughly rinse all sample-exposed surfaces between the filter paper and fourth impinger with acetone, place the washings in this container and seal.

- b. Paragraph 4.3 (Analysis) in EPA Method 5 is amended to read as follows:

4.3 Analysis. Record the data required on the example sheet shown in Figure 5-3. Handle each sample container as follows:

Container #1. Transfer the filter and any loose particulate matter from the sample container to a tared glass weighing dish, desiccate, and dry to a constant weight. Report results to the nearest 0.5 mg.

Container #2. Transfer the washings to a tared beaker and evaporate to dryness at ambient temperature and pressure. Desiccate and dry to a constant weight. Weigh to the nearest 0.5 mg.

Container #3. Extract organic particulate from the impinger solution with three 25 ml portions of chloroform. Complete the extraction with three 25 ml portions of ethyl ether. Combine the ether and chloroform extracts, transfer

to a tared beaker and evaporate at 70°F until no solvent remains. Desiccate, dry to a constant weight, and report the results to the nearest 0.5 mg.

Container #4. Weigh the spent silica gel and report to the nearest gram.

Container #5. Transfer the acetone washings to a tared beaker and evaporate to dryness at ambient temperature and pressure. Desiccate, dry to a constant weight and report the results to the nearest 0.5 mg.

Sampling for condensible particulate will be required whenever the Director determines that this type of particulate matter may represent a significant portion of the particulate emissions. Examples of processes where this modification will be required are (1) Burning of paper, wood, organic sludges, black liquor, rubbish, paint, organic solvents, plastics, rubber, bark, etc., (2) Chemical or processing operations employing or producing solvents or oils, (3) Operations likely to produce organic vapors such as bakeries, curing operations, asphalt blowing, etc.

For inorganic condensibles, and other operations where the above procedure is either not applicable or not adequate, other procedures such as EPA Reference Method 8 for sulfuric acid, EPA Reference Method 25 for Total Organic Non-Methane Organic Emission as Carbon may be specified by the Director.

10. Safety and Access

A safe working platform and access thereto shall be provided at the sampling site.

11. Good Testing Practices

Failure to follow good testing practices will jeopardize the validity of the test and may lead to rejection of one or more runs.

Failure to submit the required information on plant operating conditions, fuel analysis, visible emissions, etc. shall be cause for the Director not to approve the performance test.

F. Witnessing

A compliance test may be witnessed by either Division of Air Quality or EPA staff.

G. Reporting

1. Responsibility to Submit Test Results

Exhibit C shall be signed by the responsible supervisor of the facility and shall be submitted to the Director, Division of Air Quality with (2) copies of the performance test results.

It shall be the responsibility of the owners/operators of the source to furnish the information required in Exhibit C.

All performance test reports shall be submitted to the Director whether or not the test data indicates compliance with applicable emission limitations; and whether or not the test was conducted for the purpose of demonstrating compliance with an applicable emission limit.

The report should clearly state members of the testing team and a responsible party should sign the report, as well as the principal author(s).

2. Report Format

a. Summary Tables

The report shall include a summary table(s) showing the most relevant information, data, and results. This should include the applicable emission rate: pounds per million BTU, grains per dry standard cubic foot or pounds per hour calculated by all of the following methods:

- 1) The dry standard volumetric method
- 2) The ratio of areas method
- 3) The F factor method (for pounds per million Btu only)

b. Schematic Drawing

The report shall include a schematic drawing of the entire flue gas exhaust system from the boiler to the top of the stack. Show location of the sampling points and include all pertinent dimensions. Include all flow disturbances, i.e., elbows, dampers, fans, constrictions, collection equipment, etc.

c. Identification of Sources

The report shall clearly state what is being tested; for example, "Babcock & Wilcox Boiler, Model 169, Designated Unit #3 by XYZ Municipal Power Plant, firing pulverized Eastern Kentucky coal at an average rate of 10,000 pounds per hour, and producing an average of 110,000 pounds of steam per hour. This unit exhausts through a Western Multiclone. Flyash reinjection is permanently disconnected."

d. Use of Exhibit C

Exhibit C shall be completed at the time of the test run and a separate Exhibit shall be completed for each source.

3. Report Submittal

The performance test report and an additional copy of the report shall be submitted to:

Unit Supervisor, Permits Unit
Regulatory Compliance Section
Division of Air Quality
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155

4. Submittal Schedule

Performance test reports shall be submitted no later than 45 days following completion of the performance test.

REQUIRED DATA
for
COMBUSTION SOURCES

Company Name _____

C. Fuel Input

1. Itemize all fuels and materials that are added to the combustion process during the test period. Attach ultimate analysis of the fuel.

FUEL DESCRIPTION	INPUT	&	As Rec'd	HEAT INPUT
Coal: State, City, Mine	(LBS/HR)	MOISTURE	(BTU/LB)	(BTU/HR)
Oil: Specify Grade	(GAL/HR)	As Rec'd	(BTU/GAL)	

No. 1

No. 2

No. 3

TOTAL

2. Are the above fuels substantially the same as those normally burned _____. If not, explain _____.
3. Are the above fuels normally burned in the proportions shown above _____. If not, explain _____.
4. Describe any changes anticipated for procurement of fuels within the next twelve (12) months. _____.

D. Equipment & Operating Data

1. Furnace No. _____.
2. Furnace Mfg. _____.
3. Type of Firing _____.
4. Furnace operating under normal operating conditions No ____;
Yes _____.

5. Specify normal soot blowing frequency:

- a) source operating time blowing soot: _____ minutes/shift
b) number of shifts per day _____

6. Specify soot blowing time during the test: start _____
end _____ When was the last time before the test
that you blew soot: (date &
time) _____

7. Specify normal ash pulling frequency:

- a) source operating time pulling ashes: _____ minutes/shift
b) number of shifts per day _____

8. Specify ash pulling time during the test: start _____
end _____ When was the last time before the test
that you pulled ashes: (date & time) _____

9. Date and procedures of last maintenance/cleaning of the
boiler (please attach)

E. Instrument Data

1. Include a copy of chart records during test for the
combustion efficiency indices (CO, O₂, CO₂, combustibles,
steam flow, air flow, etc.)

F. Air Pollution Control Equipment

1. Type/model control equipment _____.
2. Air pressure drop across the control equipment _____.
3. Air flow through the control equipment _____.
4. Was the control equipment operating normally? _____.
5. Date and procedures of last maintenance/cleaning of control
equipment.

Plant Operator's Certification

I certify that the information submitted herein is accurate
and correct and that no information requested was withheld
from MPCA, Division of Air Quality.

By _____, Position _____

REQUIRED DATA
for
PROCESS EMISSIONS

Company Name _____

C. Equipment & Operating Data

1. Process Equip. No./Ident. _____.
2. Process Equip. Description _____.
3. Process equipment operating under normal operating conditions:
No _____. Yes _____. Process rate during the test _____.
(raw materials or finished product)

D. Instrument Data on Process Equipment

1. Include copy of production records or instrumentation which indicates rate of production or operation of the equipment, i.e. units per hour, lbs. per hour, pressure, air flow, etc.

E. Air Pollution Control Equipment

1. Type/model control equipment _____.
2. Air pressure drop across the control equipment _____.
3. Air flow through the control equipment _____.
4. Was the control equipment operating normally? _____.
5. Data of last major maintenance/cleaning of control equipment _____.

F. Plant Manager's Certification

I certify that the information submitted herein is accurate and correct and that no information requested was withheld from MPCA, Division of Air Quality.

By _____, Position _____